

A New Cowrie Race from North West Australia

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(Plate 29; 6 Text figures)

IN CYPRAEIDAE, ESPECIALLY IN Cypracovulinae with a restricted range of distribution, many species show distinct subspecific differences between the populations inhabiting the North West coast of Australia and those living along the East coast of that continent. We recall the pairs of:

Western races

Eastern races

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| <i>Erosaria cernica</i> (SOWERBY, 1870) | |
| <i>viridicolor</i> (CATE, 1962) | <i>tomlini</i> SCHILDER, 1930 |
| <i>Erronea subviridis</i> (REEVE, 1835) | |
| <i>dorsalis</i> SCHILDER & SCHILDER, 1938 | <i>subviridis</i> (REEVE, 1835) |
| <i>Erronea cylindrica</i> (BORN, 1778) | |
| <i>sowerbyana</i> SCHILDER, 1932 | <i>cylindrica</i> (BORN, 1778) |
| <i>Palmadusta lutca</i> (GMELIN, 1791) | |
| <i>lutea</i> (GMELIN, 1791) | <i>humphreysi</i> (GRAY, 1825) |
| <i>Purpuradusta gracilis</i> (GASKOIN, 1849) | |
| <i>irescens</i> (SOWERBY, 1870) | <i>macula</i> (ANGAS, 1867) |
| <i>Cribraria cribraria</i> (LINNAEUS, 1758) | |
| <i>fallax</i> (SMITH, 1881) | <i>melwardi</i> (IREDALE, 1930) |

and several other species.

To these species we add *Purpuradusta hammondae* (IREDALE, 1939, p. 312, pl. 28, figs. 19, 20 [adult holotype] and figs. 21, 22 [juvenile paratype]), the type locality of which is Clarence River in northern New South Wales. Its range extends from Woolgoolga to Clarence River, Moreton Bay, Stradbroke Island, Caloundra, Mooloolaba, Maroochydore, Gladstone and Tryon Island off Yeppoon, and has also been reported from Yirrkala in eastern Arnhem Land (IREDALE, 1939, p. 313); it has been collected in North West Australia, viz. at Broome (CATE, 1964, p. 18), at Point Samson (near Roebourne)

and in the Dampier Archipelago (Bezout Island, Delambre Island, Sholl Island).

The West Australian ("Dampierian") specimens differ from the typical East Australian ones at least statistically in several characters so that we propose to separate them as

Purpuradusta hammondae dampierensis

SCHILDER & CERNOHORSKY, subsp. nov.

(Plate 29, Figures 1, 2; Text figure 1)

Shells smaller than the East Australian *Purpuradusta hammondae* (IREDALE, 1939), much more slender, subpyriform (instead of rather ovate), with the anterior extremity attenuated, right side less margined, left side rather rounded, labial teeth less close as their relative number is smaller; dorsum greyish (instead of whitish) with the continuous true dorsal bands more accentuated while the transverse rows of square spots become obsolete, brown dorsal specks less close, dark lateral spots often sparse, base very pale brownish (instead of white).

The formula expressing the length (in mm), the relative breadth (in % of length), the absolute number of labial:columellar teeth (the left anterior terminal ridge excluded) and the closeness of the teeth (according to SCHILDER, 1958, pp. 77-80) is 13.0/58 16:16 *or* in the holotype in the British Museum, Natural History (No. 1964500), 12.1/59 18:16 *rs* in paratype 1 (coll. Schilder, No. 18197), and 11.8/60 16:13 *om* in the male paratype 2 (coll. Cernohorsky). These three type specimens were collected alive at Point Samson, West Australia, by D. Hurrell and L.J. Dorward in 1963. Other specimens studied by us came from Point Samson (coll. E. D. Harton), Delambre Island (coll. E. Fobes), and from

three islands in the Dampier Archipelago (coll. Ray Summers); the measurements published by CATE (1964, p. 18) also refer to *Purpuradusta hammondae dampierensis*, whereas there are no data about the shell from Yirrkala, Arnhem Land (IREDALE, 1939, p. 313).

There is also a close relationship between *Purpuradusta hammondae* (especially the West Australian *P. h. dampierensis*) and the Malayan *P. raysummersi* SCHILDER, 1960 (p. 190, pl. 15, fig. 5) which seems to be restricted to the Philippine Islands. Though GRIFFITHS (1964, p. 89) classified *P. hammondae* and *P. raysummersi* as distinct species, we now think the latter to be a third race of *P. hammondae* only: *P. raysummersi* is larger and more slender, and its teeth of both lips are finer, more close and more numerous: the average formula is (adult specimens only)

14 <i>P. hammondae dampierensis</i>	12.7/58 15:15 np
32 <i>P. hammondae hammondae</i>	13.8/61 17:15 pp
38 <i>P. hammondae raysummersi</i>	14.9/56 20:17 rr

Furthermore, *Purpuradusta hammondae raysummersi* differs from the other two races by the more saturate colour, the more accentuated dorsal zones, and the tips of the extremities which are brownish-purple instead of rosy.

The correlation between the length and relative breadth as well as that between the closeness of labial and columellar teeth has been shown in two diagrams, in which *Purpuradusta hammondae hammondae* is indicated by circles, *P. h. dampierensis* by crosses, and *P. h. raysummersi* by black dots (the squares indicate the mean or median of each character). In size *P. h. hammondae* is intermediate between the other two races, while in breadth it differs much from them (*P. h. dampierensis* and *P. h. raysummersi* follow the usual line of regression small/broad to large/slender, which can be observed in many cowrie species); in dentition *P. h. hammondae* is also intermediate between the other two races.

Extreme specimens without indication of habitat often cannot be identified exactly, as is usually the case with geographical races of cowries; the geographical distribution of the three subspecies, however, viz. the East Australian *Purpuradusta hammondae hammondae*, the West Australian *P. h. dampierensis* and the North Malayan *P. h. raysummersi* is well separable, as there are discon-

tinuities in the range of the species *P. hammondae* in the Torres Straits and in southern Indonesia.

The species *Purpuradusta hammondae* can be easily separated from *P. gracilis* (GASKOIN, 1849) by the blackish-brown spire blotch and by the regular dorsal zones and square-spotted bands, while a real dorsal blotch is absent (only in a few specimens from Moreton Bay, leg. A. Schelechoff, the crowded dorsal specks begin to coalesce into a small central blotch); in the Australian races the outlets are rosy (but in some specimens of the East Australian *P. hammondae*, there is an accessory chestnut spot above the left part of the rosy anterior extremity).

The radula of paratype 2 of *Purpuradusta hammondae dampierensis* (text figure 1, median tooth 0.091 mm



Figure 1:
Purpuradusta hammondae dampierensis SCHILDER & CERNOHORSKY
subspec. nov., male Paratype 2 from Point Samson

broad) seems to differ from that of a *P. h. hammondae* from Moreton Bay (text figure 2; leg. A. Schelechoff, coll.



Figure 2:
Purpuradusta hammondae hammondae (IREDALE)
specimen from Moreton Bay

Explanation of Plate 29

- Figure 1: *Purpuradusta hammondae dampierensis* SCHILDER & CERNOHORSKY, subsp. nov., Holotype (British Museum, Natural History); length 13.0 mm. Figure 2: *P. hammondae dampierensis*, Paratype 2 (coll. Cernohorsky); length 11.8 mm.
Figure 3: Three specimens of *P. hammondae hammondae* (IREDALE) from Stradbroke Island (coll. Cernohorsky); length: 15.0 mm, 13.9 mm and 13.4 mm respectively. Figure 4: Two specimens of *P. hammondae raysummersi* SCHILDER, from Siasi Island (coll. Cernohorsky); length: 15.0 mm and 15.8 mm, respectively

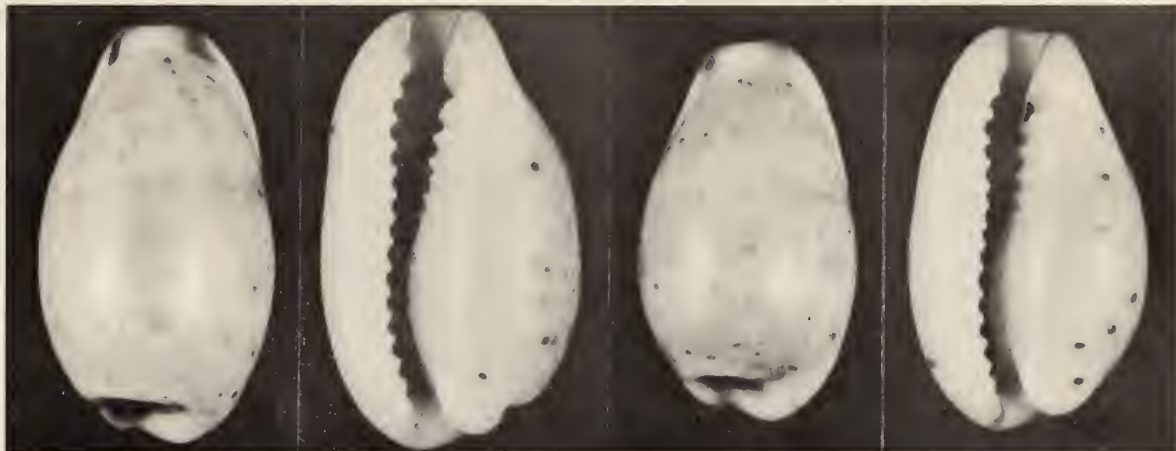


Figure 1

Figure 2

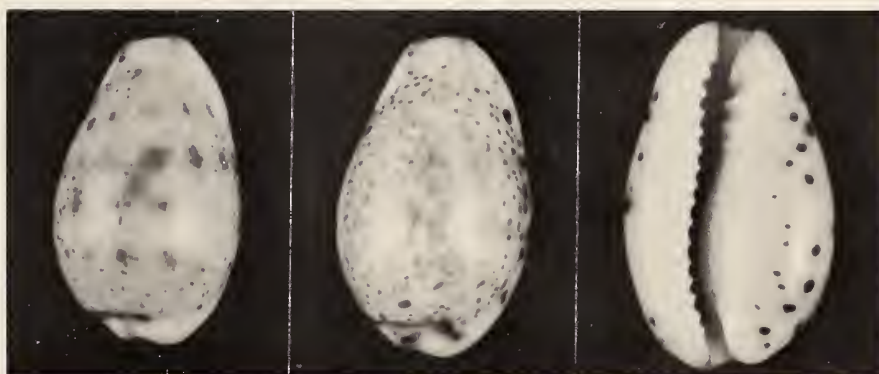


Figure 3



Figure 4